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ABSTRACT

The last of four guidebooks for the General Math student covers installment purchases and small loans, investments, insurance, and cost of housing. Goals and strategies for the course are given; performance objectives for computational skills and for each unit are specified. A course outline, teaching suggestions for each unit, and sample pretests and posttests are included. For other booklets in this set, see SE 014 880 and SE 014 881. (DT)

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AUTHORIZED COURSE OF INSTRUCTION FOR THE QUINMESTER PROGRAM

DADE COUNTY PUBLIC SCHOOLS

Consumer Math 4

5285.24

Mathematics

DIVISION OF INSTRUCTION • 1971

ED 067289

QUINMESTER MATHEMATICS

COURSE OF STUDY

FOR

CONSUMER MATH 4

5285.24

INVESTMENTS AND INSURANCE

(EXPERIMENTAL)

DIVISION OF INSTRUCTION
Dade County Public Schools
Miami, Florida 33132
1971 - 72

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PREFACE

The following course of study has been designed to set a minimum standard for student performance after exposure to the material described and to specify sources which can be the basis for the planning of daily activities by the teacher. There has been no attempt to prescribe teaching strategies; those strategies listed are merely suggestions which have proved successful at some time for some class.

The course sequence is suggested as a guide; an individual teacher should feel free to rearrange the sequence whenever other alternatives seem more desirable. Since the course content represents a minimum, a teacher should feel free to add to the content specified.

Any comments and/or suggestions which will help to improve the existing curriculum will be appreciated. Please direct your remarks to the Consultant for Mathematics.

All courses of study have been edited by a subcommittee of the Mathematics Advisory Committee.

CATALOGUE DESCRIPTION

One of four quins which will develop computational skills with non-negative rational numbers.

COURSE DESCRIPTION

A non-sequential course of study based on the book Mathematics for Daily Living. Includes computation of interest on installment purchases and small loans, the purchase and sale of stocks, bonds and mutual funds, the purchase of insurance, and the selection of appropriate housing. The course is designed to aid the student in developing computational skills as well as developing an understanding of investments, insurance and housing.

This course is designed for the General Math student with average or above average ability in Math.

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GOALS

1. To help the student become an intelligent consumer.
2. To develop skill in computation with per cents and decimals.
3. To develop an understanding of installment purchases and small loans.
4. To promote an interest in investments by studying stocks and bonds.
5. To develop an understanding of various types of insurance.
6. To develop an understanding of direct housing costs, such as rents and mortgages, and indirect costs such as electricity, gas, telephone, real estate tax, and water.

OVERALL STRATEGIES

Topic	Chapter
Installment Purchases	8
Investments	9
Insurance	10
Housing Costs	12
Review of Skills	14

Mathematics for Daily Living by Harry Lewis is the basic text used, in which chapters 8, 9, 10, and 12 comprise the core to be taught in Consumer Math 4. A Skills Pretest/Posttest A is designed to be used as a diagnostic tool in helping the teacher assess the level of his class. For those classes scoring low on Pretest A, emphasis will be placed on the review of basic skills throughout the course. Classes with higher levels of skills ability will spend the greater part of their time on the applications found in the sections on installment purchases, investments, insurance, and housing costs.

The Pretest/Posttest A is designed to be used at the end of the quin as well as at the beginning in order to assess the level of overall achievement attained by the individual students and by the class as a whole.

PERFORMANCE OBJECTIVES

FOR COMPUTATIONAL SKILLS

The student will:

1. Perform operations with decimals.
2. Convert dollars to cents, and cents to dollars.
3. Write percents in their decimal form.
4. Write decimals in their percent form.
5. Write fractions in their decimal and percent forms.
6. Round decimals to a specified place.
7. Solve for an unknown term in a proportion.
8. Solve the three basic types of percent problems.

PERFORMANCE OBJECTIVES

FOR SPECIFIC TOPICS COVERED IN CONSUMER MATH 4

The student will:

1. Compute interest on bank loans, credit union loans, and installment purchases.
2. Read stock quotations, and compute net change for stocks, dividends, profit and loss on investments, and rate of return.
3. Determine the cost of home expenses such as rent, electricity, gas, telephone, and water.
4. Compute total cost of home mortgages over the debt period.
5. Define the differences between life insurance, homeowner's insurance, disability insurance, medical insurance, and unemployment insurance and compute rates of each type based on given tables.

COURSE OUTLINE

I. Installment Purchases and Small Loans

A. Interest rate
B. Credit union loans

II. Investments

A. The stock market
B. Computing dividends
C. Profit and loss
D. Mutual funds
E. The bond market

III. Insurance

A. Life
B. Disability
C. Medical
D. Unemployment
E. Homeowners

IV. Cost of Housing

A. Renting an apartment
B. Additional costs
    1. Gas
    2. Telephone
    3. Electricity

C. Home Mortgage
D. Real estate tax

SUGGESTED STRATEGIES

A review of basic skills with percents and decimals may be necessary, based on the level of the class and their overall performance on the Pretest. The minimum requirements for the course are designed to increase the student's computational skills. The maximum requirements include an understanding of housing, installment purchases, investment and insurance.

I. Installment Purchases

1. Have students check various stores for the costs involved in buying major appliances and furniture on the time plan.

2. Check several credit unions for the prevailing rate of interest and compare it with individual score rates for installment purchases and standard bank loan rates.

II. Investments

1. Arrange for a class trip to a nearby brokerage firm with emphasis on reading open and closing quotations and the tape showing sales consumated.

2. Have students choose a stock for a quin and maintain a folder to follow its' progress, recording the closing each Friday and opening prices each Monday from newspaper quotations. Give a prize for the person who was able to make the greatest profit on his investment.

3. Obtain a weekly "market report" from a brokerage firm and determine as a class the best recommendation made in the report, based on growth potential, price per share, and industry. Follow that situation for the quin to see if a profit or loss results in nine weeks.

III. Insurance

1. Ask an insurance representative to speak to the class regarding various forms of life insurance.

2. Have students obtain rates for homeowners insurance on comparable residences, one in Dade and one in Broward County to check differences in rates on homes of the same value.

IV. Cost of Housing

Have students:

1. Find out what information is required in renting an apartment

2. Compare the costs of renting an apartment with the purchase of an apartment (Condominium).

3. Read their electric meters at the beginning of the week and again at the end to check the amount of electricity used.

4. Compute the total cost, including interest, of a home mortgage over the debt period.

5. Check the assessed valuation of their apartments or homes with the current estimated selling price or purchase price.

SKILLS PRETEST/POSTTEST A

1. a. $\begin{array}{r} 7.09 \\ \times 2.04 \\ \hline \end{array}$ b. $\begin{array}{r} 5.67 \\ \times .039 \\ \hline \end{array}$

c. $332.567 \div 54.7$ d. $5.916 \div 8.7$

e. $1.58 \div 4.2$ (to nearest hundredth) f. $43.9 + 79 + 38.48$

g. \$62.73 - \$49.79 h. 4070.09 - 463

i. 16.97 + 248.54 + 937.86 j. 981 - .639

2. a. 7¢ = \$ ____ b. 6.4¢ = \$ ____ c. \$ .58 = ____¢

3. Write as a decimal.

a. 7% b. .9% c. $3\frac{1}{8}\%$

4. Write as a percent.

a. .345 b. 4 c. $.83\frac{1}{3}$

5. Write as a decimal and a percent.

a. $\frac{3}{5}$ b. $\frac{7}{25}$ c. $\frac{7}{12}$ d. $\frac{3}{7}$

6. Round off to the nearest cent.

a. \$ 0.977 b. \$12.3549

Round off to nearest whole number:

c. 62.48 d. 7.806

Round off to nearest hundredth:

e. 5.303 f. 48.299

7. Find the value of n in each of the proportions.

a. $\frac{n}{27} = \frac{3}{40}$

b. $\frac{8}{17} = \frac{5}{n}$

Round the answer to nearest hundredth

c. $\frac{13}{n} = \frac{17}{8}$

d. $\frac{14}{6} = \frac{n}{2}$

8. a. What number is 71% of 85?

b. 67 is what percent of 56? (to the nearest tenth)

c. 6.4% of what number is 8?

KEY - PRE-TEST/POSTTEST

1. a. 14.4636
   b. .22113
   c. 6.08
   d. .68
   e. .38
   f. 161.38
   g. $12.94
   h. 3607.09
   i. 1203.37
   j. 980.361

2. a. $ .07
   b. $.064
   c. 58¢

3. a. ·07
   b. .009
   c. .03125 (.03 $\frac{1}{8}$)

4. a. 34.5%
   b. 400%
   c. 83 $\frac{1}{3}$%

5. a. .6 60%
   b. .28 28%
   c. $.58\overline{3}$ 58 $\frac{1}{3}$%
   d. $.\overline{428571}$ 42 $\frac{6}{7}$%

6. a. $0.98
   b. $12.35
   c. 62
   d. 8
   e. 5.30
   f. 48.30

7. a. 2.025
   b. 10.625
   c. 6.12
   d. 4.67

8. a. 60.35
   b. 119.6%
   c. 125

POSTTEST B

INSTALLMENT PURCHASES

1. Define:

   a. Installment Buying

   b. Principal

   c. Down Payment

2. Fill in the missing blanks:

	Down Payment	Monthly Payment	No. of Months	Installment Price	Cash Price	Interest
a.	$10	$20	8	_____	$150	_____

Prinicipal

_____

	Cash Price	Down Payment Rate	Monthly Payment	No. of Months	Installment Price	Interest
b.	$80	10%	$6	17	_____	_____

Principal	Interest Rate %
_____	_____

3. If the cash price is $300, what is the average debt?

4. Chart from Small Loan Company

Amount of Loan	24 Monthly Payments	Amount of Loan	24 Monthly Payments
$400	$22.49	$800	$43.83

How much interest will a borrower pay on a loan for $800.00?

5. a. Find the rate of interest that is being paid on a $300 loan for 12 months with monthly payments of $28.75.

   b. What is the interest on $2,000 for 24 months if the monthly payment is $96.68?

6. What are some advantages and disadvantages of using pawnshops?

7. What is the main advantage of borrowing from a credit union?

INVESTMENTS

1. Match these items:

a. Stock certificate	____ A. Place where stocks are bought and sold.
b. Stock market	____ B. Part owner of a company which is incorporated.
c. Par value	____ C. Paper which indicated ownership of stock of a company.
d. Stock holder	____ D. Stock which guarantees a fixed % of interest on the stock.
e. Preferred stocks	____ E. Difference between closing today as compared with previous closing.
f. Common stocks	____ F. Original cost of a share of stock.
g. "Close"	____ G. A stock with no fixed % of interest, fluctuates with company's earnings.
h. Mutual fund	____ H. The last price paid for a stock in a trading day.
i. Bond	____ I. A company which owns stocks in many other companies.
j. Net change	____ J. Promisory note from a company, usually used for expansion purposes.

2. Complete the table below:

	Number of Shares	Par Value	Annual Dividend Rate	Annual Dividend Per Share	Total Dividends (Annual)
a.	200	100	7%		
b.	100	50	4.2%		

3. Complete the table below for profit or loss:

	Number of Shares	Purchase Price/ Share	Purchase Price	Per Share Selling Price	Selling Price	Profit or Loss
a.	100	24		30		
b.	100	16		$16\frac{1}{2}$		

Fees	Total Profit or Loss

4. a. An investor buys 2 bonds selling at $500 each. With an annual interest rate of 3%, what is the total quarterly interest?

   b. What does a quotation of $84\frac{1}{4}$ on a stock indicate in dollars and cents?

INSURANCE

Match Column A with B

Column A	Column B
1. Life insurance	a. Insurance on a person's life premiums paid for a specified time only.
2. Mortality table	b. The person named in the policy to receive the money.
3. Term insurance	c. Insurance to pay medical bills.
4. Face value	d. Amount that the insurer receives.
5. Premium	e. Life insurance in which you get back the amount of the policy.
6. Whole life	f. Insurance taken out for a specific period of time.
7. Limited life	g. Table of life expectancy.
8. Endowment policy	h. Insurance on which premiums continue until death.
9. Disability insurance	i. Amount paid by the insurer weekly, monthly or yearly for the insurance.
10. Hospitalization	j. Insurance which pays when accidents or illness occur.
11. Beneficiaries	k. Insurance taken out, payable on the death of the individual.

HOUSING COSTS

1. Harry's electric meter reads 65713 and 65872 at the end of two consecutive months. If the rate is 6.5¢/KWH, what is Harry's electric bill for the month?

2. What is the tax on a home assessed at $23,000 if the tax rate is 22.37 per $1000.

KEY - POSTTEST B

INSTALLMENT PURCHASES

1. a. Installment buying is when the purchaser doesn't have all the money needed for a purchase and makes a down payment and pays the balance in monthly installments.

   b. The Principal is the amount the purchaser owes after the down payment.

   c. The Down Payment is the amount of money actually paid at the time of purchase.

2.

	Installment Price	Interest	Principal	Interest Rate
a.	$170.00	$20.00	$140.00	
b.	$110.00	$30.00	$ 72.00	55.6%

3. $150.00

4. a. 251.92

5. a. 28%

   b. $320.32

6. Answers will vary.

7. Answers will vary.

INVESTMENTS

1. b A. j E. g H.
   d B. c F. h I.
   a C. f G. i J.
   e D.

2. a. $7.00 $1,400.00

   b. $2.10 $ 210.00

3. 1. $2,400 $3,000 $600 $81 $519

   2. $1,600 $1,650 $50 $48.75 $1.25

4. a. $7.50 b. $84.25

INSURANCE

Column A

1. k
2. g
3. f
4. d
5. i
6. h
7. a
8. e
9. j
10. c
11. b

HOUSING COSTS

1. $10.34
2. $514.51